



STOLT-NIELSEN

STOLTHAVEN (NEW ORLEANS) L.L.C.

SEVERE WEATHER PROCEDURES

EMERGENCY ACTION PLAN

Doc. No. : EAP 5

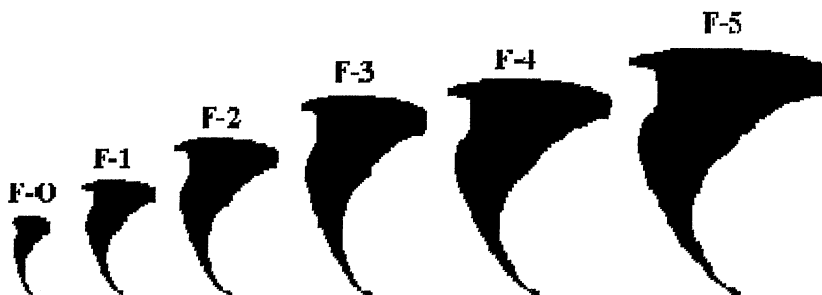
Page : 5 of 20

Date: March 3 2010

Rev. No. : 0

Appr. By : DCN

Fujita - Pearson Tornado Scale



F-0: 40-72 mph, chimney damage, tree branches broken

F-1: 73-112 mph, mobile homes pushed off foundation or overturned

F-2: 113-157 mph, considerable damage, mobile homes demolished, trees uprooted

F-3: 158-205 mph, roofs and walls torn down, trains overturned, cars thrown

F-4: 207-260 mph, well-constructed walls leveled

F-5: 261-318 mph, homes lifted off foundation and carried considerable distances, autos thrown as far as 100 meters

5.0.5 HURRICANE PROCEDURES

The Atlantic Hurricane Season Officially extends from June 1 through November 30 each year. These storms are one of nature's greatest threats to residents, facilities and property of the Houston Area and the Gulf Coast. They are measured by the Saffir-Simpson Hurricane Intensity Scale, which measures wind speed and categorizes damage estimated on that wind speed. The following chart gives the categories:

<i>Category</i>	<i>Wind (mph)</i>	<i>STORM COAST</i>	<i>SURGE BAY</i>	<i>Damage</i>
1	74-95	4-5 ft.	4-7 ft.	Minimal
2	96-110	6-8 ft.	8-12 ft.	Moderate
3	111-130	9-12 ft.	13-18 ft.	Extensive
4	131-155	13 -18 ft.	19-24 ft.	Extreme
5	156-up	> 18 ft. above normal	> 24 ft. above normal	Catastrophic

Reference: Hurricane Carla in 1961 was a Category 4 storm; Hurricane Alicia in 1983 was a Category 3 storm. Hurricane Andrew, which threatened in 1992, was a Category 4 storm.

Hurricanes, because of their size and unpredictable path, require advanced planning and significant annual effort to minimize their impact on Stolthaven.

Storm Terms



STOLT-NIELSEN

STOLTHAVEN (NEW ORLEANS) L.L.C.

SEVERE WEATHER PROCEDURES

EMERGENCY ACTION PLAN

Doc. No. : EAP 5

Page : 6 of 20

Date: March 3 2010

Rev. No. : 0

Appr. By : DCN

The following definitions of terms that the National Weather Service uses to describe dangerous storms:

Tropical Disturbance – A moving area of thunderstorms of tropical origin that maintains its identity for 24 hours or more.

Tropical Depression – A rotary circulation at the surface of water with sustained winds of 38 mph or less.

Tropical Storm – A rotary circulation at the surface of water with sustained winds of between 39 and 73 mph.

Hurricane – A tropical cyclone with sustained winds of 74 mph or more.

“H hour” is defined as the time when 75 mph winds arrive at the facility. Note: If the decision is made by the EOC to shutdown the facility, it is based on the arrival of “H hour”.

Hurricane Watch – The first alert given by the National Weather Service when a hurricane poses a possible, but as yet, uncertain threat to a specific coastal area. Small craft are advised to stay in port during a hurricane watch.


Hurricane Warning – A notice to act. It means that a hurricane is expected to reach a coastal area within 24 hours with sustained hurricane-force winds and dangerously high waters and/or waves.

Flash Floods – Generally occur within six hours after rainfall has been intense for a long period of time, such as during slow moving thunderstorm systems, tropical storms or hurricanes. The U. S. Department of Commerce’s National Oceanic and Atmospheric Administration states that flash floods are the number one weather-related killer in the United States.

Flash Flood Watch – Flash flooding or flooding is possible within the designated WATCH area – be alert and be ready to evacuate your area.

Flash Flood Warning – has been reported or is imminent – take necessary precautions at once. Remember you may have only seconds to act.

Flash Flood Statement – Follow-up information regarding the flood event.

 STOLT-NIELSEN	STOLTHAVEN (NEW ORLEANS) L.L.C. SEVERE WEATHER PROCEDURES EMERGENCY ACTION PLAN	Doc. No. : EAP 5 Page : 7 of 20 Date: March 3 2010 Rev. No. : 0 Appr. By : DCN
---	--	--

5.0.6 PLANNING AND MANAGEMENT OF HURRICANES

Facility hurricane planning activities are based on the premise that normal preparations to safeguard employees and facility assets will usually occur before the arrival of hurricane force winds (74 mph or greater); this is known as “H hour” (Hurricane Hour) at the facility. **Note:** Most of these initial activities should be complete before the arrival of the tropical force winds (40-74 mph).

As an added precaution, most clean-up and tie-down protective measures should be completed before tropical force winds of 40-74 mph occur. This planning is a coordinated effort throughout the facility with all departments participating.

An Emergency Operations Center (EOC) Team is established to assist the facility in preparing for each phase during severe weather conditions

Although a “Unified” SHVNH/SNTG EOC may be set up to manage hurricane preparation activities, the primary EOC to monitor the storm will be in Conference Room No. 7 at the SNTG building due to the possibility of flooding as a result of storm surges. It is expected that both EOC’s will be activated to allow both management teams to plan and coordinate their hurricane preparations. Even if a Unified EOC is established, the separate management teams may break out as necessary to discuss how preparation activities are coming at each location.

Refer to **EAP 3.5.1** for additional information on EOC Team responsibilities.

PHASE 1 – Checklist for Pre-Storm Activities

During Phase 1, annual pre-storm hurricane preparation begins. The facility hurricane procedures are reviewed and departmental resources are assessed.

The following process takes place during Phase 1.

STAGE	DESCRIPTION
	March/April/May
1	<p>Facility Management reviews the Hurricane Procedure and its supplements to ensure planning information is current. The Safety Superintendent will coordinate this action item.</p> <p>Note: Each Department with information as a supplement to the Hurricane Procedure is responsible for ensuring information is current & accurate by reviewing their section annually & making corrections available to the Safety Superintendent for entry into the manual.</p>



STOLT-NIELSEN

STOLTHAVEN (NEW ORLEANS) L.L.C.

SEVERE WEATHER PROCEDURES

EMERGENCY ACTION PLAN

Doc. No. : EAP 5


Page : 8 of 20

Date: March 3 2010

Rev. No. : 0

Appr. By : DCN

March/April/May (con't)	
2	Each Department reviews their plan to assure responsibilities are assigned and adequate resources are available if needed.
3	The Safety Superintendent will review this plan with Oil Tanking Safety Personnel and OTI/SHVNH Contract Security Supervisor to assess and assigned personnel as required.
May/June	
4	The Hurricane/Severe Weather Preparedness Procedures are submitted with the Emergency Action Plan to the Safety Superintendent for all revisions and approvals. The General Manager/VP SHVNH is responsible for final approval.
5	<p>The Emergency Action Plan is issued to all Managers, Superintendents, Shift Supervisors Office and Emergency Operations Centers (Terminal and Ship Owning).</p> <p>Note: Each Department's overall hurricane/severe weather preparedness procedure will be included in the Emergency Action Plan along with any specific procedures for that department.</p>
6	Each Department continues their ongoing testing of emergency back-up systems such as electrical, communication, and safety systems.
Storm in the Gulf of Mexico	
7	It is the Safety Superintendent's responsibility to monitor the weather for tropical storms/hurricanes entering the Gulf of Mexico. Once a tropical storm/hurricane enters the Gulf of Mexico a planning meeting will be immediately scheduled to direct any preparedness activities with the departments and to assure personnel are assigned to begin any activities required.
8	The Safety Superintendent will coordinate an annual severe weather drill in May/June.
9	The Safety Superintendent will monitor the weather information on tropical storm and hurricanes in the Gulf of Mexico and will notify the EOC Coordinator (GM/VP or designee) when hurricane force winds are expected to threaten the facility within 72 hours at the latest.

 STOLT-NIELSEN	<p align="center">STOLTHAVEN (NEW ORLEANS) L.L.C.</p> <p align="center">SEVERE WEATHER PROCEDURES</p> <p align="center">EMERGENCY ACTION PLAN</p>	<p>Doc. No. : EAP 5 Page : 9 of 20 Date: March 3 2010 Rev. No. : 0 Appr. By : DCN</p>
---	--	---


Phase 2: (72-36 Hours Prior to “H” Hour)

Phase 2 is a hurricane monitoring stage. Initial clean-up and tie-down activities occur during this time.

The EOC is set up and implementations of departmental hurricane plans are initiated.

The following process takes place during Phase 2.

STAGE	DESCRIPTION
1	The Safety Superintendent alerts the EOC Coordinator as soon as the weather advisories, issued by National Weather Service (NWS) for the Texas Gulf Coast, indicate that tropical or hurricane force winds may threaten the facility within 72 hours.
2	The Liaison Coordinator should make an announcement and notify facility personnel that we are in Phase 2 hurricane status.
3	Initial hurricane preparedness, including clean-up and tie-down measures, begins as the facility prepares for the arrival of hurricane force winds (>75 mph) Note: Most of these initial activities should be complete before the arrival of the tropical force winds (40-75 mph)
4	The EOC Coordinator calls a meeting with the EOC Team to discuss planning strategy and begin communications.
5	At the direction of the EOC Coordinator, the EOC is set up and manned by the EOC Team.
6	The Planning/Operations Coordinator should modify the schedules of personnel as necessary with current operating conditions.
7	At the direction of the EOC Coordinator implementation of departmental hurricane checklist and area inspections to ensure loose equipment is properly secured.
8	EOC Coordinator asks for status from Operations Manager on their plans to secure equipment prone to flooding, including pumps.
9	Emergency operations procedures and communication procedures used during hurricane activities are to be reviewed with employees.
10	Human Resources will implement any policies and procedures for personnel and/or family sheltering coordination, if any.
11	Managers should review staffing levels and call-out lists. Those employees expected to live-in during the storm should be released ahead of time to attend to personal hurricane preparations prior to reporting back to work.
12	Steps should be taken to secure valuable documents and computers.
13	Logistics Coordinator should review the critical supply list in anticipation of post hurricane needs and determine if additional supplies need to be ordered.

 STOLT-NIELSEN	<p align="center">STOLTHAVEN (NEW ORLEANS) L.L.C.</p> <p align="center">SEVERE WEATHER PROCEDURES</p> <p align="center">EMERGENCY ACTION PLAN</p>	<p>Doc. No. : EAP 5 Page : 10 of 20 Date: March 3 2010 Rev. No. : 0 Appr. By : DCN</p>
---	--	--

Phase 3: (36-24 Hours Prior to “H” Hour)

During Phase 3, final clean-up and tie-down activities occur. Phase 3 is the operational planning and review stage with the EOC completely manned.

STAGE	DESCRIPTION
1	The Liaison Coordinator should make an announcement and notify facility personnel that we are in Phase 3 hurricane status.
2	The EOC Team makes necessary staffing arrangements for around the clock coverage and plans for a minimum stay of 3 days.
3	Communications Systems should be tested and provisions made to stay in contact with designated personnel at scheduled times during the storm.
4	The EOC Coordinator and Operations Manager plan for curtailment of operations as necessary after reviewing the facility schedule with the Planning Coordinator. (It may also be beneficial to seek input from other SNTG Sites and industrial neighbors on their curtailment plans.)
5	The EOC Coordinator request status reports for preparation activities every 8-12 hours and holds a EOC Team communication meeting.
6	The Operations Manager will implement appropriate staffing levels by adding or releasing personnel based on the decision to shutdown or not to shutdown.
7	<p>The Safety Superintendent/Manager reviews staffing and personnel availability for emergency incident control.</p> <p>In addition, contacts are made with other SNTG locations to arrange for emergency response equipment back-up support from them in the event of a major storm striking Channelview. He/she will also establish contact with key area industry H&S personnel to share information about contingency plans.</p>
8	Final clean up and tie-down should be complete.



STOLT-NIELSEN

STOLTHAVEN (NEW ORLEANS) L.L.C.

SEVERE WEATHER PROCEDURES

EMERGENCY ACTION PLAN

Doc. No. : EAP 5

Page : 11 of 20

Date: March 3 2010

Rev. No. : 0

Appr. By : DCN

Phase 4: (24-12 Hours Prior to "H" Hour)

Phase 4 puts the facility under hurricane alert.

STAGE	DESCRIPTION
1	The Liaison Coordinator should make an announcement and notify facility personnel that we are in Phase 4 hurricane status.
2	The EOC Coordinator, Operations Manager & Planning Coordinator direct the reduction of Operations as necessary.
3	Communications/status meetings are held with the EOC Team every 4-8 hours.
4	Outside communications, i.e.; radio, television, cellular telephones, etc. are tested and verification of communications is confirmed.
5	Critical employee staffing plans are implemented and all non-essential personnel are released.
6	Operations Manager conducts final inspection of areas to ensure loose equipment is properly secured.
7	A final check should be made of all emergency back-up systems.

Phase 5: (12-0 Hours Prior to "H" Hour)

During Phase 5, the facility is in emergency operations. Final preparations and operation curtailments are conducted.

STAGE	DESCRIPTION
1	The Liaison Coordinator should make an announcement and notify facility personnel that we are in Phase 5 hurricane status.
2	Final operation curtailment is completed based on storm conditions and availability of equipment and personnel.
3	Outside communications, i.e.; radio, television, cellular telephones, etc. are tested and verification of communications is confirmed.
4	2-4 hours prior to the arrival of "H hour" all personnel are to remain indoors at designated safe shelters except for essential operational and emergency activities. The gates will be closed at this time and personnel will not be permitted to leave the facility unless authorized by the Safety Superintendent. Note: Safety and Emergency Response Personnel will be located on site to aid in emergency response if necessary after first ensuring it is safe to begin these response efforts.



STOLT-NIELSEN

STOLTHAVEN (NEW ORLEANS) L.L.C.

SEVERE WEATHER PROCEDURES

EMERGENCY ACTION PLAN

Doc. No. : EAP 5

Page : 12 of 20

Date: March 3 2010


Rev. No. : 0

Appr. By : DCN

Phase 6: (Post Hurricane)

During Phase 6, damage assessment is conducted, and the facility is brought back to normal operations.

STAGE	DESCRIPTION
1A	Ensure all personnel are accounted for.
1B	Assess condition of workforce/provide treatment as necessary.
1C	Determine facility asset status
2A	Damage assessment is coordinated through the EOC Coordinator.
2B	Incident recovery begins as necessary with assistance from the Incident Recovery Coordinator.
3A	Safety Issues: <ul style="list-style-type: none">• Determine/communicate safety constraints for personnel to work (outside/inside specific)• Identify any industrial hygiene/environmental issues.• Establish PPE requirements• Establish communication system for facility personnel.• Ensure food, water, and supplies are available.• Create work/sleep schedule for personnel.
3B	Secure or validate the securing of all equipment.
3C	Assess well-being of families of personnel at the facility & provide aid as appropriate.
3D	Focus resources on readiness/operation of emergency & environmental equipment.
4	Establish EOC as resource coordinator for personnel and equipment after inventory is complete.
5A	Agency notification as necessary
5B	Set up media communications
6A	Establish employee/family support for personnel not at the facility.
6B	Establish community support
6C	Initiate and/or secure outside SNTG resources (modes of transportation: road, air waterway).
7	Plan and/or validate equipment repair needs. Prioritize as follows: <ul style="list-style-type: none">• Emergency/critical environmental equipment• Utilities/common systems• Equipment with least damage
8A	Re-assess resource availability and re-establish personnel schedules
8B	Conduct pre-startup safety reviews for systems prior to startup
9	Restart as prioritized above & as resources are available (personnel, utilities, etc.).

 STOLT-NIELSEN	STOLTHAVEN (NEW ORLEANS) L.L.C. SEVERE WEATHER PROCEDURES EMERGENCY ACTION PLAN	Doc. No. : EAP 5 Page : 13 of 20 Date: March 3 2010 Rev. No. : 0 Appr. By : DCN
---	--	---

5.0.7 DEPARTMENTAL REQUIREMENTS:

SAFETY, HEALTH AND EMERGENCY RESPONSE


Designated Safety and Health Personnel will be required to live in at the facility during a hurricane unless there a special personal needs. Designated members of the Emergency Response Team will also be selected to live in and will receive appropriate training.

The following are specific duties of personnel during the phases of the hurricane plan.

RESPONSIBLE PARTY	ASSIGNED DUTIES
By May 1st Safety Superintendent and/or Emergency Response Group Member	Remind facility to complete the Pre-Season Hurricane Checklist
Beginning June 1st Safety Inspector's	Audit facility areas monthly for: <ul style="list-style-type: none"> • Loose materials & equipment • Overall housekeeping • Hurricane Checklist this section.

The following table is to be performed during Phase 2 of the hurricane plan.

RESPONSIBLE PARTY	ASSIGNED DUTIES
Safety Inspector's	Audit facility areas monthly for: <ul style="list-style-type: none"> • Loose materials & equipment • Overall housekeeping • Hurricane Checklist this section
Safety Inspector/Safety Superintendent	Audit Fire Protection Equipment <ul style="list-style-type: none"> • Ensure Fire Water Tanks are full • Ensure Fire Pump Diesel tanks are completely full. • Ensure all ERT Portable Generators are available and in good working condition.

 STOLT-NIELSEN	STOLTHAVEN (NEW ORLEANS) L.L.C. SEVERE WEATHER PROCEDURES EMERGENCY ACTION PLAN	Doc. No. : EAP 5 Page : 14 of 20 Date: March 3 2010 Rev. No. : 0 Appr. By : DCN
---	--	---

The following table is to be performed during Phase 3 of the hurricane plan.

RESPONSIBLE PARTY	ASSIGNED DUTIES
Safety Inspector's	Audit facility areas monthly for: <ul style="list-style-type: none"> • Loose materials & equipment • Overall housekeeping
Safety Inspector/Safety Superintendent	Audit Fire Protection Equipment <ul style="list-style-type: none"> • Monitor firewater system during expected high-use period as tank ballasting occurs throughout facility. • Ensure Fire Pump Diesel tanks are completely full. • Ensure all ERT Portable Generators are available and in good working condition. • Inspect all boats, fill fuel tanks, check supplies, etc. • Ensure that every Emergency Response Team member and other live personnel have floatation device (life jacket), flashlight and radio.
Safety Inspector/Safety Superintendent	Continue audits from Phase 2